

ALMA2019: Science Results and Cross-Facility Synergies



Contribution ID: 41

Type: **not specified**

The demographical properties of brown dwarf disks

Tuesday 15 October 2019 11:55 (15 minutes)

Contributed talk

Abstract:

“The study of the properties of disks around young brown dwarfs can provide important clues on the formation of these very low-mass objects and on the possibility of forming planetary systems around them. We will report on the systematic ALMA search for cold dust around extinction limited samples of young brown dwarfs with infrared excess in the Lupus, Ophiuchus and Chamaeleon I star forming regions. Combined with previous ALMA surveys of protoplanetary disks around young stars, our surveys allow us to extend to the substellar domain the demographical studies of disk properties.

We present the results of the disk mass vs central object mass, mass accretion rate vs disk mass and disk size vs disk mass correlation. The extension to the substellar domain of these populations studies allow us to constrain the formation mechanism of substellar objects and to put on firmer grounds the scaling laws of protoplanetary disk properties. We will also discuss the current evidence for dust evolution in disks around BDs and we will highlight the open questions related to dust and gas evolution and planet formation in the substellar domain.”

Presenter: Dr TESTI, Leonardo

Session Classification: Circumstellar Disks